

SEQUENCE LISTING

<110> East Tennessee State University Research Foundation
 Lampson, Bert C.
 Velore, Jashree
 <120> RNA-Dependent DNA Polymerase from thermophilic *Geobacillus*
stearothermophilus
 <130> 2826067-000002
 <160> 8
 <170> PatentIn version 3.2
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 <211> 1263
 <212> DNA
 <213> *Geobacillus stearothermophilus*
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 atCCCGCtC actGGAGCAC gatCCGCGCC caACTCTTGG cggGAACCTA cggCCGGCG 180
 CCTGTCCGCA gggTCGGAAT cccGAAACCG ggcGGCGGCAC cACGGCAGCT aggCATTCCC 240
 accGTGGTGG accGGCTGAT ccaACAAAGCC attCTTCAAG aactCACACC catTTCGAT 300
 ccAGACTTCT cccCTTCCAG cttCGGATTc cgtCCGGGCC gtaACGCCCA cgATGCCGTG 360
 cggCAAGCGC aaggCTACAT ccAGGAAGGG tatCGGTACG tggTCGACAT ggACCTGGAA 420
 aagtTCTTG atCGGGTCAA ccatGACATC ttGATGAGTC gggTGGCCCG aaaAGTCAAG 480
 gataAAACGCG tgCTGAAACT gatCCGTGCC tacCTGCAAG ccGGCGTTAT gatCGAAGGG 540
 gtGAAGGTGC agACGGAGGA agggACGCCG caAGGCAGGCC ccCTCAGCCC cctGCTGGCG 600
 aacATCCTTC tcGACGATT agACAAGGA ttGGAGAAGC gaggATTGAA attCTGCCGT 660
 tacGAGATG actGCAACAT ctATGTAAA agtCTGCGGG caggACAACG ggtGAAACAA 720
 agCATCCAAC ggtTCTTGGa gaaaACGCTC aaACTCAAAG taaACGAGGA gaaaAGTGCg 780
 gtggACCGCC cgtGGAAACG ggcCTTCTG gggTTAGCT tcACACCGGA acgAAAAGCG 840
 cgaATCCGGC tcGCCCAAG gtcGATTCAA cgtCTGAAAC agcGGATTcG acAGCTGACC 900
 aacCCAAACT ggAGCATATC gatGCCAGAA cgaATTATC gcGTCAATCA atACGTATG 960
 ggATGGATCG ggtATTTCG gtcGTCGAA accCCGTCTG tcCTTCAGAC catCGAAGGA 1020
 tggATTCGGA ggAGGCTTCG actCTGTCAA tggCTTCAAT gggAAACGGGT cagaACCAGA 1080
 atCCGTGAGT taAGAGCGCT gggGCTGAAA gagACAGCGG tGATGGAGAT cGCCAAATACC 1140
 cgAAAAGGAG cttGGCGAAC aacGAAAACG ccGCAACTCC accAGGCCCT gggCAAAACC 1200
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<213> **Geobacillus stearothermophilus**
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Ser Thr Asp Gln Leu Arg Asp Tyr Ile Arg Ala His Trp Ser Thr Ile
35 40 45

Arg Ala Gln Leu Leu Ala Gly Thr Tyr Arg Pro Ala Pro Val Arg Arg
50 55 60

Val Gly Ile Pro Lys Pro Gly Gly Thr Arg Gln Leu Gly Ile Pro
65 70 75 80

Thr Val Val Asp Arg Leu Ile Gln Gln Ala Ile Leu Gln Glu Leu Thr
85 90 95

Pro Ile Phe Asp Pro Asp Phe Ser Pro Ser Ser Phe Gly Phe Arg Pro
100 105 110

Gly Arg Asn Ala His Asp Ala Val Arg Gln Ala Gln Gly Tyr Ile Gln
115 120 125

Glu Gly Tyr Arg Tyr Val Val Asp Met Asp Leu Glu Lys Phe Phe Asp
130 135 140

Arg Val Asn His Asp Ile Leu Met Ser Arg Val Ala Arg Lys Val Lys
145 150 155 160

Asp Lys Arg Val Leu Lys Leu Ile Arg Ala Tyr Leu Gln Ala Gly Val
165 170 175

Met Ile Glu Gly Val Lys Val Gln Thr Glu Glu Gly Thr Pro Gln Gly
180 185 190

Gly Pro Leu Ser Pro Leu Leu Ala Asn Ile Leu Leu Asp Asp Leu Asp
195 200 205

Lys Glu Leu Glu Lys Arg Gly Leu Lys Phe Cys Arg Tyr Ala Asp Asp
210 215 220

Cys Asn Ile Tyr Val Lys Ser Leu Arg Ala Gly Gln Arg Val Lys Gln
225 230 235 240

Ser Ile Gln Arg Phe Leu Glu Lys Thr Leu Lys Leu Lys Val Asn Glu
245 250 255

Glu Lys Ser Ala Val Asp Arg Pro Trp Lys Arg Ala Phe Leu Gly Phe
260 265 270

Ser Phe Thr Pro Glu Arg Lys Ala Arg Ile Arg Leu Ala Pro Arg Ser
275 280 285

Ile Gln Arg Leu Lys Gln Arg Ile Arg Gln Leu Thr Asn Pro Asn Trp
290 295 300

Ser Ile Ser Met Pro Glu Arg Ile His Arg Val Asn Gln Tyr Val Met
305 310 315 320

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325 330 335

Thr Ile Glu Gly Trp Ile Arg Arg Arg Leu Arg Leu Cys Gln Trp Leu
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Gln Trp Lys Arg Val Arg Thr Arg Ile Arg Glu Leu Arg Ala Leu Gly
355 360 365

Leu Lys Glu Thr Ala Val Met Glu Ile Ala Asn Thr Arg Lys Gly Ala
370 375 380

Trp Arg Thr Thr Lys Thr Pro Gln Leu His Gln Ala Leu Gly Lys Thr
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Leu Arg Gln Gly
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<211> 1370

<212> DNA

<213> Geobacillus stearothermophilus

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aacgcatctt agcgagagac aacctcatca cggcgctcaa acgggtcgaa gccaaccaag 180

gagcaccggg aatcgacgga	gtatcaaccg atcaactccg	tgattacatc	cgcgctcact	240
ggagcacgat	ccgcgcccaa	ctcttggcgg	gaacctaccg	300
tcggaatccc	gaaaccgggc	ggcggcacac	ggcagctagg	360
ggctgatcca	acaagccatt	cttcaagaac	tcacacccat	420
cttccagctt	cggattccgt	ccgggcccgt	acgcccacga	480
gctacatcca	ggaagggtat	cggtacgtgg	tcgacatgga	540
gggtcaacca	tgacatctt	atgagtcggg	tggcccggaa	600
tgaaactgat	ccgtgcctac	ctgcaagccg	gcgttatgat	660
cgaggaagg	gacgcccga	ggcggccccc	tcagccccct	720
acgatttaga	caaggaattt	gagaagcgag	gattgaaatt	780
gcaacatcta	tgtaaaagt	ctgcggcag	gacaacgggt	840
tcttggagaa	aacgctcaa	ctcaaagtaa	acgaggagaa	900
ggaaacgggc	ctttctgggg	tttagcttca	caccggAAC	960
ccccaaagg	gttcaacgt	ctgaaacagc	ggattcgaca	1020
gcatatcgat	gccagaacga	attcatcg	tcaatcaata	1080
attttccgct	cgtcgaaacc	ccgtctgtcc	ttcagaccat	1140
ggcttcgact	ctgtcaatgg	cttcaatgg	aacgggtcag	1200
gagcgctgg	gctgaaagag	acagcggtga	tggagatcgc	1260
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 <213> Artificial

<220>
 <223> Nucleotide primer containing NdeI restriction site

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 <211> 28
 <212> DNA
 <213> Artificial

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 <223> Nucleotide primer containing BamHI restriction site

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<213> Geobacillus stearothermophilus		
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20	25	30
Lys Ile Thr Met Ala Leu Leu Glu Arg Ile Leu Ala Arg Asp Asn Leu		
35	40	45
Ile Thr Ala Leu Lys Arg Val Glu Ala Asn Gln Gly Ala Pro Gly Ile		
50	55	60
Asp Gly Val Ser Thr Asp Gln Leu Arg Asp Tyr Ile Arg Ala His Trp		
65	70	75
Ser Thr Ile Arg Ala Gln Leu Leu Ala Gly Thr Tyr Arg Pro Ala Pro		
85	90	95
Val Arg Arg Val Gly Ile Pro Lys Pro Gly Gly Thr Arg Gln Leu		
100	105	110
Gly Ile Pro Thr Val Val Asp Arg Leu Ile Gln Gln Ala Ile Leu Gln		
115	120	125

Glu Leu Thr Pro Ile Phe Asp Pro Asp Phe Ser Pro Ser Ser Phe Gly
130 135 140

Phe Arg Pro Gly Arg Asn Ala His Asp Ala Val Arg Gln Ala Gln Gly
145 150 155 160

Tyr Ile Gln Glu Gly Tyr Arg Tyr Val Val Asp Met Asp Leu Glu Lys
165 170 175

Phe Phe Asp Arg Val Asn His Asp Ile Leu Met Ser Arg Val Ala Arg
180 185 190

Lys Val Lys Asp Lys Arg Val Leu Lys Leu Ile Arg Ala Tyr Leu Gln
195 200 205

Ala Gly Val Met Ile Glu Gly Val Lys Val Gln Thr Glu Glu Gly Thr
210 215 220

Pro Gln Gly Gly Pro Leu Ser Pro Leu Leu Ala Asn Ile Leu Leu Asp
225 230 235 240

Asp Leu Asp Lys Glu Leu Glu Lys Arg Gly Leu Lys Phe Cys Arg Tyr
245 250 255

Ala Asp Asp Cys Asn Ile Tyr Val Lys Ser Leu Arg Ala Gly Gln Arg
260 265 270

Val Lys Gln Ser Ile Gln Arg Phe Leu Glu Lys Thr Leu Lys Leu Lys
275 280 285

Val Asn Glu Glu Lys Ser Ala Val Asp Arg Pro Trp Lys Arg Ala Phe
290 295 300

Leu Gly Phe Ser Phe Thr Pro Glu Arg Lys Ala Arg Ile Arg Leu Ala
305 310 315 320

Pro Arg Ser Ile Gln Arg Leu Lys Gln Arg Ile Arg Gln Leu Thr Asn
325 330 335

Pro Asn Trp Ser Ile Ser Met Pro Glu Arg Ile His Arg Val Asn Gln
340 345 350

Tyr Val Met Gly Trp Ile Gly Tyr Phe Arg Leu Val Glu Thr Pro Ser
355 360 365

Val Leu Gln Thr Ile Glu Gly Trp Ile Arg Arg Arg Leu Arg Leu Cys
370 375 380

Gln Trp Leu Gln Trp Lys Arg Val Arg Thr Arg Ile Arg Glu Leu Arg
385 390 395 400

Ala Leu Gly Leu Lys Glu Thr Ala Val Met Glu Ile Ala Asn Thr Arg
405 410 415

Lys Gly Ala Trp Arg Thr Thr Lys Thr Pro Gln Leu His Gln Ala Leu
420 425 430

Gly Lys Thr Tyr Trp Thr Ala Gln Gly Leu Lys Ser Leu Thr Gln Arg
435 440 445

Tyr Phe Glu Leu Arg Gln Gly
450 455